

G. I. PARK.

SEAT RAISING ATTACHMENT FOR THEATER CHAIRS OR THE LIKE.

APPLICATION FILED OCT. 23, 1920.

Patented Apr. 12, 1921.

2 SHEETS—SHEET 1.

1,374,467.

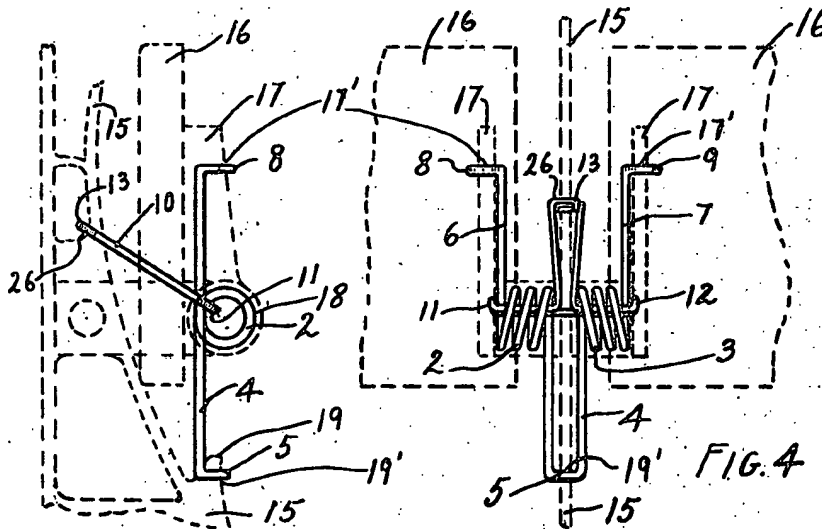
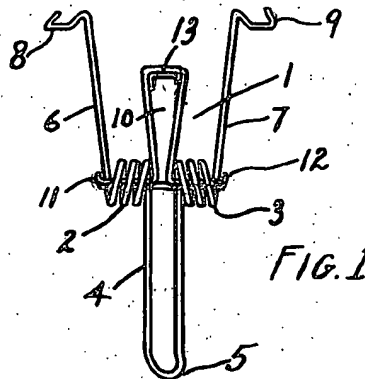
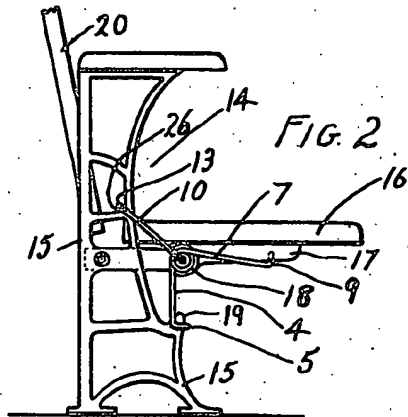


FIG. 3

FIG. 4

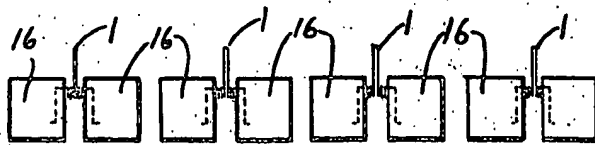


FIG. 5

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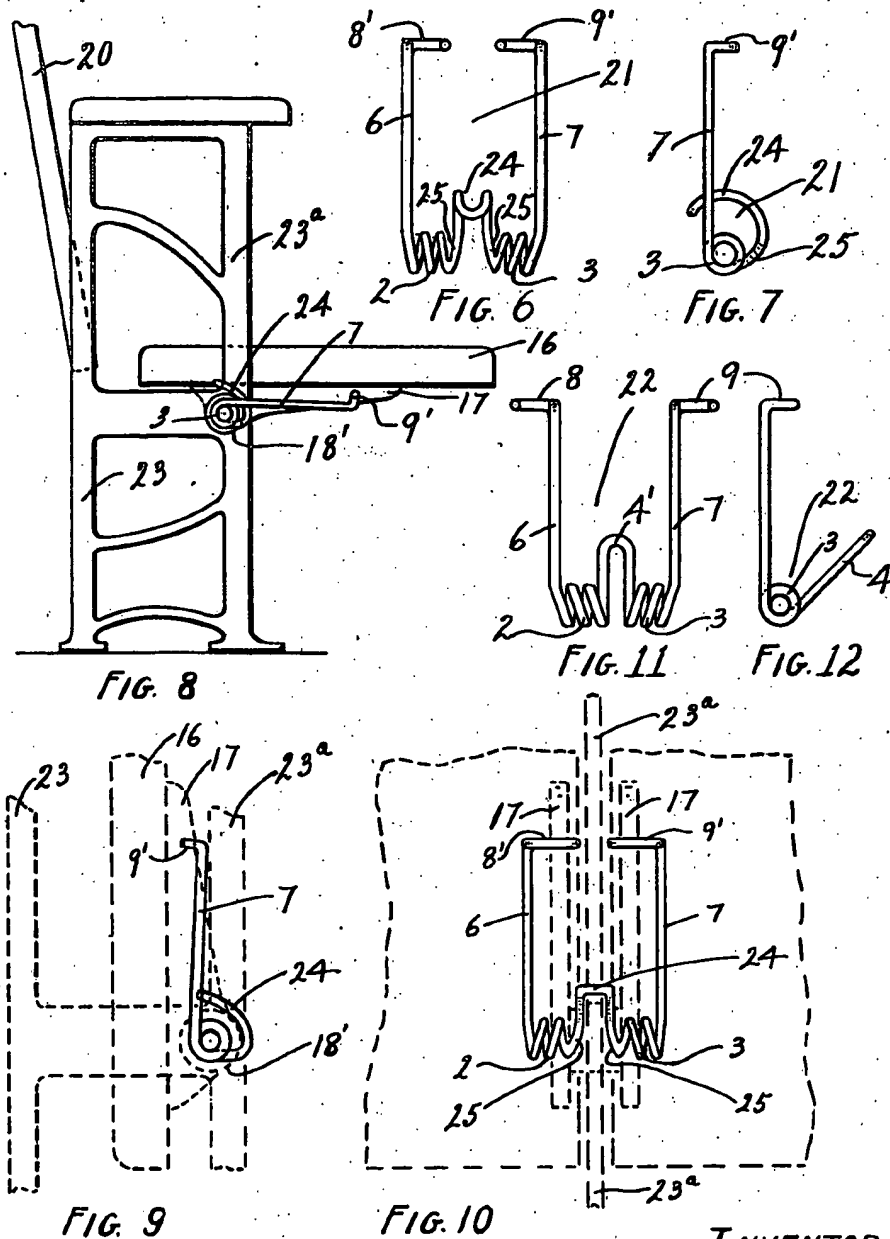
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UNITED STATES PATENT OFFICE.

GEORGE IRWIN PARK, OF BURLINGTON, ONTARIO, CANADA, ASSIGNOR OF ONE-THIRD TO GEORGE SWANWICK AND ONE-THIRD TO CHARLES MONTAG, BOTH OF HAMILTON, ONTARIO, CANADA.

SEAT-RAISING ATTACHMENT FOR THEATER-CHAIRS OR THE LIKE.

1,374,467.

Specification of Letters Patent.

Patented Apr. 12, 1921.

Application filed October 23, 1920. Serial No. 419,129.

To all whom it may concern:

Be it known that I, GEORGE IRWIN PARK, a subject of the King of Great Britain, residing in the town of Burlington, in the county of Wentworth, Province of Ontario, Dominion of Canada, have invented certain new and useful Improvements in Seat-Raising Attachments for Theater-Chairs or the like, of which the following is a specification.

My invention relates to improvements in seat raising attachments for theater chairs and the like, and the object of the invention is to devise an attachment, which may be readily fitted to the ordinary theater chair and which will automatically maintain the seat in the raised position when the chair is unoccupied, thus doing away with the necessity of having attendants raise the seats and so reducing the labor cost of operating the theater; a further object is to provide such an attachment which will occupy small space and not present any obstruction in the aisle space between adjacent rows of chairs when the seats are in the raised position; a further object is to make the attachment simple and cheap to produce and fit to the chairs; and a still further object is to provide for the operation of two adjacent chairs by a single attachment each seat being operated from one side only.

My invention consists of a single piece of spring wire bent to form right and left hand, substantially aligned, coil springs connected by a central loop portion and having arms extending from the outer ends of said coil springs, the attachment adapted to be mounted upon the chair frame between adjacent chairs, the outer ends of the arms engaging the under frame of the seats of said adjacent chairs, all as hereinafter more particularly described and illustrated in the accompanying drawings in which—

Figure 1 is a perspective view of my attachment.

Fig. 2 is a side elevation of my attachment fitted to a theater chair, showing the seat lowered.

Fig. 3 is a similar view to Fig. 2, slightly enlarged, showing the seat raised, the chair and frame being shown in dotted lines for clearness.

Fig. 4 is a front view of Fig. 8.

Fig. 5 is a diagrammatic plan view show-

ing the manner in which my attachment is used in connection with a row of chairs.

Fig. 6 is an elevational view of a modified form of attachment for use with a different type of chair.

Fig. 7 is a side view of Fig. 6.

Fig. 8 is a side elevation of this modified form fitted to a chair showing the seat lowered.

Fig. 9 is a similar view to Fig. 8, slightly enlarged, with the seat raised, the chair and frame being shown in dotted lines for clearness.

Fig. 10 is a front view of Fig. 9.

Fig. 11 is an elevational view of a further modified form in which the attachment may be made to suit another type of chair.

Fig. 12 is a side view of Fig. 11.

In the drawings like characters of reference indicate corresponding parts in the various views.

1 is my attachment in the preferred form and comprises the substantially aligned right and left hand coil springs 2 and 3 which are connected by the central depending loop portion 4 terminating in the lower bent portion 5.

The outer ends of the coils extend into the arms 6 and 7 which terminate in the bent hook portions 8 and 9 respectively.

10 is a securing link bent to form the hook portions 11 and 12 and the split hook portion 13 for a purpose as will appear hereinafter.

14 is a theater chair having the frame 15. The seat 16 is carried on the seat frame 17 which is hinged to the chair frame 15 at 18.

19 is a portion of the chair frame 15, which is engaged by the lower bent portion 5 when the attachment is fitted in place.

20 is the back rest of the chair.

21 and 22 (see Figs. 6, 7, 11 and 12) are modified forms in which my attachment may be made to suit different types of chairs.

23 (see Figs. 8, 9, 10,) is a type of chair frame with which the form of attachment 21 is adapted to be used.

In this type of chair the seat is hinged direct to a front upright member 23^a of the frame 23 at 18^a instead of as shown in Fig. 2.

The construction of the modified forms 21 and 22 are very similar to the form 1 except that with them the securing link 10 is not required since they are secured direct.

The form 21 has the central loop portion made in the form of an arc 24 with the arms bent outwardly at 25 to space the inner ends of the coils 2 and 3 outwardly from the arms of the arc portion 24 to permit of clearance for mounting the attachment; also the hook portions 8¹ and 9¹ are bent inwardly to suit the particular type of chair with which this form is used.

The form of attachment 22 is similar to the form 1 except that the central loop portion 4¹ is straight and has no bent portion at its extremity as at 5 in Fig. 1.

The construction and operation of my attachment is as follows;—

The attachment is made of a single piece of spring wire and may be bent to shape in a lathe or other suitable machine, the portions 5, 8 and 9 being probably stamped to shape.

I will first consider the form 1 illustrated in Figs. 1, 2, 3, and 4.

The attachment is mounted upon the chair frame and is located in the space between adjacent seats.

The bent portion 5 of the depending central loop 4 engages the portion 19 of the chair frame at 19¹. The arms 6 and 7 extend below the adjacent seats and the hook portions 8 and 9 engage the under sides of the seat frames 17 at 17¹. The hook portions 11 and 12 of the securing link 10 extend longitudinally through the coils 2 and 3 and the split hook portion 13 is secured to the frame 15 at 26. The hook portions 11 and 12 serve to limit the axial displacement of the coil springs.

It will be seen that the attachment is suspended from four points, viz., from the chair frame at 26 and 19¹ and from the two adjacent seats at points 17¹.

In the modified form illustrated in Figs. 6, 7, 8, 9 and 10, the attachment is mounted by passing the central arc-shaped loop 24 forwardly about the front upright member 23¹ of the chair frame and then securing the hook portions 8¹ and 9¹ below the seat frames 17 (see Fig. 8). In this form the attachment is suspended from the chair frame by the end of the arc-shaped loop 24 and this arc-shaped loop contacts along its length with the hinge of the seat frame so that the attachment is firmly supported.

It will be evident that whenever the seat 16 is lowered it must be against the pressure of the corresponding coil spring and further that as the seat is lowered, the pressure exerted by this spring tending to raise the seat increases the further it is lowered and therefore the moment the occupant vacates the seat it will immediately be swung quickly up into the raised position.

Due to the peculiar construction of my attachment it will be evident that one attachment will operate the seats of two adjacent

chairs and that each seat will be operated from one side only. Therefore it will only be necessary to install an attachment at every second space between the chairs of a row and that in order to operate a given number of chairs only one-half that number of attachments will be required (see Fig. 5). In this way a very great saving in the cost of material and labor will be obtained.

From the foregoing it will be seen that I have devised an improved seat raising attachment for theater chairs which will be positive and efficient in operation, cheap to produce and install, and which may be conveniently fitted to any type of chair. Further, since my attachment will positively insure that all unoccupied seats in a theater are raised and since it occupies no aisle space in front of the chair when the seat is in the raised position, it will prove of great value in cases of fire or panic as all the space between the rows of chairs will constitute free, unobstructed aisles.

Many modifications may be made in my invention without departing from the spirit of same or the scope of the claims and the forms shown are to be taken as illustrative and not in a limiting sense.

For instance while I have illustrated three forms only in which the attachment may be made and two types of theater chairs, it is of course evident that for each of the many widely different forms in which the frame of the chair is made and in which the seat is hinged thereto that many slight modifications must be made in the exact shape of the attachment in order to suit each type of chair but all these necessary modifications I include within the scope of my present invention.

What I claim as my invention is:

1. In a row of theater chairs, or the like, the combination with the hinged seats thereof and the frames of the chairs, of a spring attachment mounted upon the frame between adjacent chairs, said attachment co-acting between the seats of said adjacent chairs and the frame for normally maintaining said seats in the raised position.

2. A seat raising attachment for theater chairs, or the like, comprising a single piece of spring material formed into two coils connected at their inner ends by a central loop portion and having an arm extending from the outer end of each coil and a separate member having one end engaging the aforesaid coils, and the other end formed into a hook portion.

3. In a row of theater chairs, or the like, the combination with the hinged seats thereof and the frames of the chairs, of a spring attachment situated between adjacent chairs and comprising a single piece of spring material formed into two coils, connected at their inner ends by a central loop portion

and having an arm extending from the outer end of each coil, said central loop portion engaging the frame of the chairs and each of the aforesaid arms engaging the hinged seat of one of the adjacent chairs.

4. In a row of theater chairs, or the like, the combination with the hinged seats thereof and the frames of the chairs, of a spring attachment situated between adjacent chairs and comprising a single piece of spring material formed into two coils connected at their inner ends by a central loop portion and having an arm extending from the outer end of each coil, said central loop portion engaging the frame of the chairs and each of the aforesaid arms engaging the hinged seat of one of the adjacent chairs and a link member engaging at one end the coils and at the other end the frame of the chairs.

5. In a row of theater chairs, or the like,

the combination with the hinged seats thereof and the frames of the chairs, of a spring attachment situated between adjacent chairs and comprising a single piece of spring material formed into two substantially aligned, oppositely twisted coils connected at their inner ends by a central loop portion and having an arm extending from the outer end of each coil, said central loop portion engaging the frame of the chairs and each of the aforesaid arms engaging the hinged seat of one of the adjacent chairs, and a link member engaging at one end the coils and at the other end the frame of the chairs, said link being so shaped as to prevent longitudinal displacement of the coils.

GEORGE IRWIN PARK.

Witnesses:

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